

# Alaska Department of Fish and Game

## Division of Commercial Fisheries Professional Paper

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Meyers, T. R., D. Korn, K. Glass, T. Burton, S. Short, K. Lipson, and N. Starkey. 2003. Retrospective analysis of antigen prevalences of *Renibacterium salmoninarum* (Rs) detected by enzyme-linked immunosorbent assay in Alaskan Pacific salmon and trout from 1988 to 2000 and management of Rs in hatchery chinook and coho salmon. *Journal of Aquatic Animal Health* 15:(2)101-110.

**Abstract:** Five species of anadromous Pacific salmon *Oncorhynchus* spp. and eight species of nonanadromous fish, including trouts *Oncorhynchus* and *Salvelinus* spp., Arctic char *S. alpinus*, and Arctic grayling *Thymallus arcticus* (collectively called 'trout'), from Alaskan waters were examined by enzyme-linked immunosorbent assay for annual and total prevalences of *Renibacterium salmoninarum* (Rs) from 1988 to 2000. The total prevalence of Rs antigen was lower among the Pacific salmon and highest among the nonanadromous salmonid species grouped as 'trout' that were residents in many of the watersheds. These trout species were likely reservoirs of Rs infection for many of the wild and hatchery stocks of Pacific salmon. Chinook salmon *O. tshawytscha* and coho salmon *O. kisutch* comprised 80% of the salmon database, and 45% of these two species were hatchery broodstocks at four facilities where eggs were routinely culled from Rs-positive parent fish. The cyclical occurrences of Rs antigen in the coho and Chinook salmon data sets were remarkably similar and, when combined, were opposite from several of the major peaks and declines observed in the next largest data set, that for sockeye salmon *O. nerka*. Routine culling of eggs from Rs-positive parent fish supplemented with occasional prophylactic erythromycin therapy appeared to provide some success in Rs management for the three Chinook and two coho salmon hatchery stocks examined. The overall Rs prevalences in spawned adult fish were lower than (or at least not amplified above) those for the remaining coho and Chinook salmon stocks in the database, and no significant epizootics of bacterial kidney disease occurred in progeny fish during juvenile rearing.

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